Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-11-29-08** **Date: 04-12-17**
Customer	:	Assistant Executive Engineer, T. Dasarahalli Sub division, BBMP, Bangalore.
Address	:	T. Dasarahalli Sub division, BBMP, Bangalore.
Project Name	:	Improvements to RCC drain and covering slab at Kalashrinagara main road and cross roads near Kaliyamma temple in ward no.15 T. Dasarahalli.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th cross, 17th 'C' main road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010
Customer's Reference	:	BBMP/EE/DD/WO/74/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	29-11-17
Sample ID No	:	2017-11-29-08 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	30-11-17
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.76	–
2	Finess by Air permeablity method (m^2/kg,Min)	259.82	225m^2/kg, Min
3	Density (gm/cc)	3.11	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	185 minutes	Not less than 30 minutes
6	Final Setting time	270 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

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Samples will be disposed after 90 days from the date of issue of test certificate

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-11-29-08** **Date: 28-12-17**
Customer	:	Assistant Executive Engineer, T. Dasarahalli Sub division, BBMP, Bangalore.
Address	:	T. Dasarahalli Sub division, BBMP, Bangalore.
Project Name	:	Improvements to RCC drain and covering slab at Kalashrinagara main road and cross roads near Kaliyamma temple in ward no.15 T. Dasarahalli.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th cross, 17th 'C' main road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010
Customer's Reference	:	BBMP/EE/DD/WO/74/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	29-11-17
Sample ID No	:	2017-11-29-08 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	30-11-17
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	27.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	54.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-11-29-08** **Date: 04-12-17**
Customer	:	Assistant Executive Engineer, T. Dasarahalli Sub division, BBMP, Bangalore.
Address	:	T. Dasarahalli Sub division, BBMP, Bangalore.
Project Name	:	Improvements to RCC drain and covering slab at Kalashrinagara main road and cross roads near Kaliyamma temple in ward no.15 T. Dasarahalli.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th cross, 17th 'C' main road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010
Customer's Reference	:	BBMP/EE/DD/WO/74/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	29-11-17
Sample ID No	:	2017-11-29-08 /02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	29-11-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	392	392	2.6	97.4	90-100
3	20 mm	6184	6576	43.8	56.2	30-70
4	10 mm	4620	11196	74.6	25.4	10-35
5	4.75 mm	3274	14470	96.5	3.5	0-5
6	Pan	530	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-11-29-08** **Date: 04-12-17**

Sample ID No : 2017-11-29-08 /02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	9.8	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.48	_
5	Bulk Density(Compacted) (Kg/l)	1.51	_
6	Water Absorption(%)	0.25	_

Note:

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-11-29-08** **Date: 04-12-17**
Customer	:	Assistant Executive Engineer, T. Dasarahalli Sub division, BBMP, Bangalore.
Address	:	T. Dasarahalli Sub division, BBMP, Bangalore.
Project Name	:	Improvements to RCC drain and covering slab at Kalashrinagara main road and cross roads near Kaliyamma temple in ward no.15 T. Dasarahalli.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th cross, 17th 'C' main road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010
Customer Reference	:	BBMP/EE/DD/WO/74/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	29-11-17
Sample ID No	:	2017-11-29-08 /02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	29-11-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	235	235	4.7	95.3	90-100
3	10 mm	2738	2973	59.5	40.5	25-55
4	4.75 mm	1859	4832	96.6	3.4	0-10
5	Pan	168	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-11-29-08** **Date: 04-12-17**

Sample ID No : 2017-11-29-08 /02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.51	–
5	Bulk Density(Compacted) (Kg/l)	1.56	–
6	Water Absorption(%)	0.23	–
7	Aggregate crushing Value(%)	23.3	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-11-29-08** **Date: 04-12-17**

Customer : Assistant Executive Engineer, T. Dasarahalli Sub division, BBMP, Bangalore.

Address : T. Dasarahalli Sub division, BBMP, Bangalore.

Project Name : Improvements to RCC drain and covering slab at Kalashrinagara main road and cross roads near Kaliyamma temple in ward no.15 T. Dasarahalli.

Agency : Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th cross, 17th 'C' main road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010

Customer's Reference : BBMP/EE/DD/WO/74/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 29-11-17

Sample ID No : 2017-11-29-08 /03

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 29-11-17

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	32	32	3.2	96.8	90-100	90-100	90-100	95-100
3	2.36 mm	151	183	18.3	81.7	60-95	75-100	85-100	95-100
4	1.18 mm	198	381	38.1	61.9	30-70	55-90	75-100	90-100
5	600 micron	201	582	58.2	41.8	15-34	35-59	60-79	80-100
6	300 micron	192	774	77.4	22.6	5-20	8-30	12-40	15-50
7	150 micron	177	951	95.1	4.9	0-10	0-10	0-10	0-15
8	Pan	49	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-11-29-08** **Date: 04-12-17**

Sample ID No : 2017-11-29-08 /03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.52	–
2	Specific Gravity	2.54	–
3	Material finer than 75 micron(%)	4.1	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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